

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Applicant's or agent's file reference JHU1920WO		Date of mailing (day/month/year) 30 AUG 2005 FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/US04/32482	International filing date (day/month/year) 29 September 2004 (29.09.2004)	Priority date (day/month/year) 29 September 2003 (29.09.2003)
International Patent Classification (IPC) or both national classification and IPC IPC(7): CO7D 211/70, 239/00, 311/80, 311/82, 417/00; A 61 K 31/44, 31/385, 31/425 and US Cl.: 546/340; 544/253, 549/390, 389, 548/159, 514/357, 439, 367		
Applicant THE JOHNS HOPKINS UNIVERSITY		

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

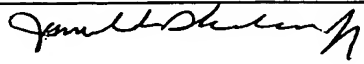
2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer  Cecilia Tsang Telephone No. 571-272-1600
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Form PCT/ISA/237 (cover sheet) (January 2004)

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US04/32482

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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WRITTEN OPINION OF THE
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Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>1-9, 12-18, 20-23, 25-59</u>	YES
	Claims <u>10, 11, 19, 24</u>	NO
Inventive step (IS)	Claims <u>1-9, 12-18, 20-23, 25-59</u>	YES
	Claims <u>10, 11, 19, 24</u>	NO
Industrial applicability (IA)	Claims <u>1-59</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

Claims 10, 11 lack novelty under PCT Article 33(2) as being anticipated by HCplus 109:73373. HCplus 109:73373 discloses the compound, 2-Thiazolamine, N-(2-ethoxyphenyl)-4-pyrazinyl which anticipates the claims because the pyrazinyl ring reads on the het moiety.

Claim 19 lacks novelty under PCT Article 33(2) as being anticipated by HCplus 132:93280. HCplus 132:93280 discloses the instant compound, Benzenamine, 4-(4-phenyl-2-quinazolinyl) .

Claim 19 lacks an inventive step under PCT Article 33(3) as being obvious over HCplus 132:93280. HCplus 132:93280 teaches the compound of formula I wherein Ar⁵ is aniline and R¹⁶ is H or methyl. The difference between the prior art compound and the instant compound is the teaching of a subgenus of compounds vs. a genus of compounds. It would have been obvious to one of ordinary skill in the art to select various known radicals within a genus to prepare structurally similar compounds. For instance, see the compound, Benzenamine, 4-(4-phenyl-2-quinazolinyl) , where a disclosed species is exemplified. Accordingly, the compounds are deemed unpatentable therefrom in the absence of a showing of unexpected results for the claimed compounds over those of the generic prior art compounds.

Claim 24 lacks novelty under PCT Article 33(2) as being anticipated by HCplus 77:341. HCplus 77:341 discloses the compound Benzamide, N-(3-methyl-4-pyridinyl)-4-nitro which anticipates the claim because the 3-methyl pyridinyl moiety anticipates the instant alkylpyridyl moiety, the benzamide moiety substituted with nitro in the 4 position also anticipates the instant benzamide moiety.

Claim 24 lacks novelty under PCT Article 33(2) as being anticipated by HCplus 42:21374. HCplus 42:21374 discloses the instant compound, Benzamide, N-(3-methyl-4-pyridinyl) which anticipates the instant claim because of the 3-methyl-4-pyridinyl moiety which anticipates the instant alkyl pyridinyl moiety and the benzamide moiety which anticipates the instant benzamide moiety.

Claims 1-9, 12-18, 20-23, 25-59 the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest the claimed invention of the instant compounds or the methods of using these compounds.

Claims 1-59 meet the criteria set out in PCT Article 33(4), and thus meet industrial applicability because the subject matter claimed can be made or used in industry.